

Prof. dr hab. Wiesław Leoński
Faculty of Physics and Astronomy
University of Zielona Góra
ul. Prof. Z. Szafrana 4a
65-516 Zielona Góra, Poland
e-mail: *w.leonski@if.uz.zgora.pl*

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Assoc. Prof. RNDr. Martin Kubala, Ph.D.
Dean of the Faculty of Science,
Palacký University in Olomouc,
17. listopadu 12
779 00 Olomouc,
Czech Republic

Letter of recommendation for associate professor RNDr. Ondřej Haderka, Ph.D.

Dear Professor Kubala,

I am sending you this recommendation letter to support associate professor Ondřej Haderka in his application for the full professorship. I am glad to write it, especially because I appreciate a lot the scientific, pedagogical, and organization achievements of the Candidate.

I met the Candidate for the first time about ten years ago, and from that time, I observe with great pleasure his scientific achievements. In my opinion, Ondřej Haderka is an excellent researcher who delivered many significant contributions not only in fundamental but also in applied research. In particular, his scientific interests concern such fields as quantum and nonlinear optics in general, especially: laser physics, detection of light, quantum states engineering, quantum correlations of various types, quantum cryptography, random numbers generation with an application of quantum processes, and others. As a result, he has published, as the author and co-author, numerous articles in the mainstream highly recognized scientific journals. For instance, there were: Physical Review Letters, Physical Review Applied, Physical Review A, Scientific Reports, Optics Letters, Optics Express, and others. In the database Web of Science, one can find 74 publications authored/co-authored by the Candidate (the state at the August 28th, 2020). Those papers have been recognized

by the optical community, and up to this time, WoS shows over 1000 citations of them (817 without self-citations), whereas H-index is equal to 18. The scientific results obtained by Prof. Haderka have also been presented in numerous international conference talks, which were co-authored by him together with other members of his group. A significant part of those presentations was given as "invited talks".

From the other side, Prof. Haderka was engaged in works related to various practical applications of optical and experimental techniques. I can mention here such results as preparing an eight-channel detector using single-mode fibers, random numbers generator, and the pulsed homodyne detector with 1 MHz bandwidth. Moreover, he has designed and built precise current-voltage converters for testing and selection of photodiodes, and the homodyne detector for quantum optics constructed from commercially available components (!!!) and others. I can say that the last of the mentioned above projects I appreciate the most. It gives the possibility of the construction of devices that can be easily built and applied in quantum information systems. The list of realizations prepared by the Candidate and his collaborators shows how to successfully apply undoubtedly high experimental skills in the practical building of various appliances.

Moreover, the Candidate is very active in the international arena. I can mention here his numerous visits and stays abroad, including those at the University of Innsbruck, University La Sapienza, Roma, University of Insubria, Como in Italy. He was also a co-organizer of the 11th International Conference on Squeezed States and Uncertainty Relations in Olomouc and Erwin Schrödinger Symposium in Prague.

Prof. Ondřej Haderka is also an experienced and active academic teacher. He gave lectures not only in the fields related to his scientific interests (detection of light, applied nonlinear optics and laser dynamics, experimental laser and nonlinear optics, nanophotonics – experimental methods, sources, and detection) but also in other such fields as astronomy, observational astronomy practices. The Candidate was also involved in teaching within the frame of Ph.D. studies. Currently, he is a guarantor and lecturer of several bachelor (4), master's (4), and doctoral (5) courses. Prof. Haderka also supervised three B.Sc., five M.Sc, and one Ph.D. thesis in optics. Additionally, he was a consultant of the doctoral study of one student in the doctoral study program Optics and optoelectronics. It should be emphasized, that Prof. Haderka was involved in

the preparation and supervision of new courses at his University, and was a member at various bodies controlling teaching activities at the University, and the Accreditation Commission of the Ministry of Education, Youth and Sports of the Czech Republic.

Prof. Ondřej Haderka has shown that he is able to get funds for the organisation and supporting scientific activities. In particular, he actively participated in 28 grant projects (related to both fundamental and applied research) – in 10 of them, he played the role of a primary investigator or co-investigator. At this point, I would like to pay attention to the grants which allowed to develop and enhance the Regional Centre of Advanced Technologies and Materials (RCPTM).

The Candidate actively works for the scientific and pedagogical community of physicists. He is a member of the Scientific Board of the Faculty of Science of Palacký University, a member of the Scientific-Pedagogical Board of the physics branch (Faculty of Science, Palacký University). In the past, he was also a member of the Permanent Working Group for Physics in the Accreditation Commission of the Ministry of Education, Youth and Sports of the Czech Republic, scientific director of the RCPTM. He successfully leads, as a Head, the Joint Laboratory of Optics (JLO) of Palacký University and Institute of Physics of the Czech Academy of Sciences. Moreover, Prof. Ondřej Haderka served as a referee in various, highly recognized journals. For instance, there were JOSA A and B, J. Opt. B., Opt. Express, Sci. Reports, J. Rus. Laser Res. And others. He has also prepared his reviews and recommendations for the Czech Science Foundation, Grant Agency of the Faculty of Mathematics and Physics, Charles University, Prague.

The Candidate has also been awarded for his teaching and scientific achievements. In particular, I can mention here the Prize of the Dean for the best student's scientific work, Faculty of Science, Palacký University in Olomouc, 1995; Alois Rašín Award for comprehensibility (together with J. Valenta), Journal Vesmír, 1997; Otto Wichterle Award, Czech Academy of Sciences, 2006.

As a person who had a pleasure of observing (for more than ten years) various activities of Prof. Ondřej Haderka in scientific, teaching, and organization fields, I can state that he is not only an excellent and competitive researcher who is able to solve complex physical problems but also a very effective organizer of scientific research and didactic processes. What is relevant, he is also a modest, and highly honest person.

At the final point of my letter, I would like to emphasize that the research achievements, teaching, and activities for the community, of Prof. Ondřej Haderka in the Czech and international communities of physicists strongly convinced me that he is an excellent candidate for full professorship.

Wiesław Leoński